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PATENT

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MAIN PATENT

Albert Gemperle, Hombrechtikon

Display and Sales Shelf with Subdividing and Refilling Device

Albert Gemperle, Hombrechtikon, has been named as inventor.

The invention pertains to a display and sales shelf with a subdividing and refilling device.

Shelves of wood, metal, and transparent plastic are already known in which partitions are used to subdivide the shelf into channels extending transversely to the lengthwise dimension of the shelf. The prepackaged merchandise such as packages of cigarettes can then be loaded into the channels thus formed. After the package at the front has been removed, it is desirable for the empty space to be refilled. For this purpose, various systems have already been proposed, including a design with a sharp tilt to the shelf, so that the merchandise slides down by itself. According to another proposal, a roller is installed behind the row of merchandise. Even though the shelf is tilted only slightly, the roller is nevertheless able to push the merchandise down. A mechanism is also known, however, in which a spiral spring stretches down along the row of packages and rolls itself up behind the last package, thus causing the merchandise to be resupplied automatically. A spring of this type, however, has the tendency to push the entire stack upward, which is especially likely to happen when the package at the very front is removed.

The subdividing and refilling device according to the invention is characterized in that rails which form separate channels are provided, where an elastic tension element is provided for each channel. This element is attached to the rail and passes around a roller at the front, thus pulling a pusher toward the forward stop.

The drawing shows an exemplary embodiment of the object of the invention:

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- Figure 1 shows a plan view of a shelf with a subdividing and refilling device;
- Figure 2 shows a cross section through the shelf from the side view of the device; and
- Figure 3 shows a detailed cross section along line III-III of Figure 1.

At the forward edge, the shelf 1 has a lengthwise stop strip 2. The rails 3, which run crosswise to the shelf, have T-shaped recesses in the manner of so-called "curtain rails" and divide the shelf into individual channels 4, which serve to accept the packaged merchandise, e.g., cigarette packages 5. At the front end of the rail is a roller 6, around which the elastic tension element 7, e.g. a rubber cord, rubber band, or spring, passes. This tension element is housed in the hollow space inside the rail and is attached at one end to a suitable point 8 on the rail and at the other end to the pusher 9.

The packages 5 are inserted in the channel 4 to form a row, which extends between the front stop strip 2 and the pusher 9, which is thus pushed into a rear position. As a result of the tension exerted by the band 7, the packages are always being pushed by the pusher 9 against the stop strip. After the package at the front is removed, the empty spot is refilled automatically.

A similar rail 11 is attached near the rear edge of the shelf, but this time it extends in the lengthwise direction. It serves to support the rails 3, which are attached to it, and also serves to anchor the hold-down strap 12, which presses elastically down toward the shelf. This strap extends up as far as the package in the position second from the front and is intended to prevent the entire row or a part of it from jumping out of the channel when the package at the front is removed.

The hold-down strap 12 and the rails 3 can be attached at various points on the rail 11 by the use of screws 13, 14, which makes it possible to adapt the system to the type of package to be displayed.

CLAIM

Display and sales shelf with a subdividing and refilling device, characterized in that rails which form separate channels are provided, where an elastic tension element is provided for each channel, this element being attached to the rail and passing around a roller at the front, thus pulling a pusher toward the forward stop.

SUBCLAIMS

1. Shelf with refilling device according to the Claim, characterized in that the rails have a recess with a T-shaped cross section, in which the tension element is housed and in which the guide base of the pusher slides.
2. Shelf with refilling device according to the Claim and Subclaim 1, characterized in that the roller around which the tension element passes is also installed in the T-shaped recess, near the front edge of the shelf.
3. Shelf with refilling device according to the Claim, characterized in that a rubber cord is used as the tension element.
4. Shelf with refilling device according to the Claim, characterized in that an elastic hold-down strap, which pushes downward toward the shelf and which is anchored near the rear edge of the shelf, is provided for each channel.
5. Shelf with refilling device according to the Claim and Subclaim 4, characterized in that a profiled rail in which the hold-down strap is anchored is provided near the rear edge of the shelf.

Albert Gemperle

Representative: A. Rossel, Engineer Certified by the Swiss Institute of Technology, Zurich

Fig.2

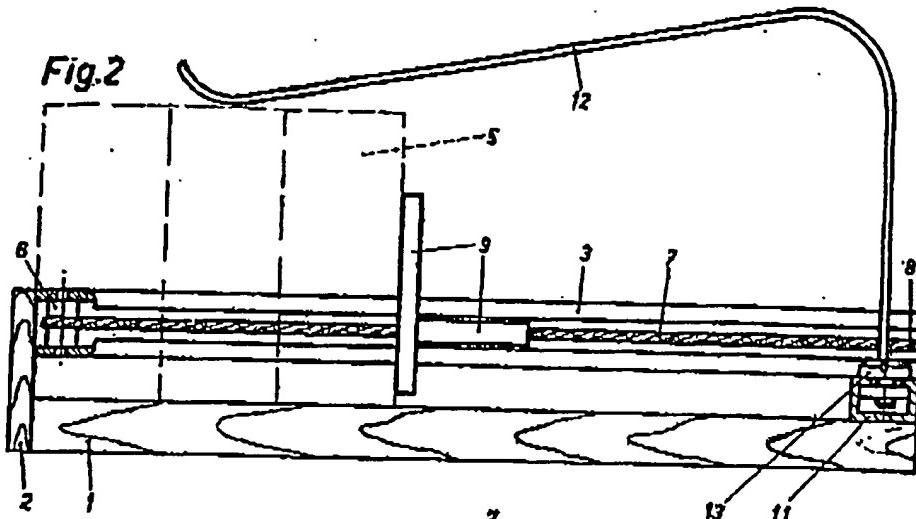
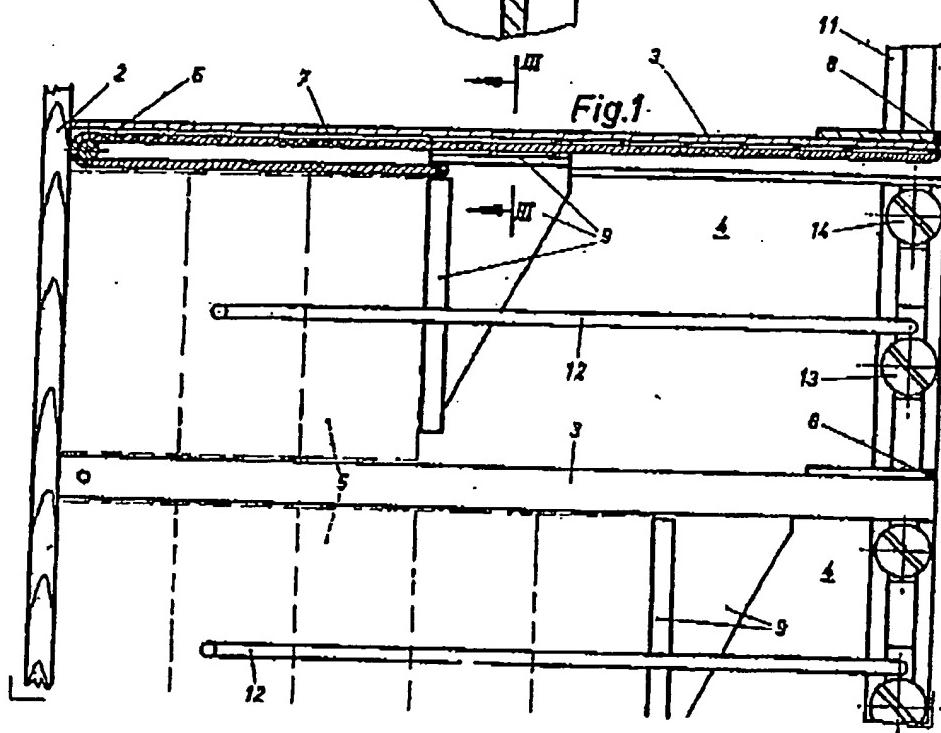


Fig.3



Fig.1





SCHWEIZERISCHE EIDGENOSSENSCHAFT
EIDGENÖSSISCHES AMT FÜR GEISTIGES EIGENTUM

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HAUPTPATENT

Albert Gemperle, Hombrechtikon

Schau- und Verkaufstablar mit Unterteilungs- und Nachschubvorrichtung

Albert Gemperle, Hombrechtikon, ist als Erfinder genannt worden

Die Erfindung betrifft ein Schau- und Verkaufstablar mit Unterteilungs- und Nachschubvorrichtung.

Es sind bereits Tablare aus Holz, Metall und durchsichtigem Kunststoff bekannt, die quer zur Tablarlänge durch Zwischenwände unterteilt sind, wobei in die so gebildeten Kanäle die vorverpackte Ware, z. B. Zigaretten, eingefüllt ist. Nach Wegnahme der vordersten Packung ist es wünschenswert, daß jeweils ein Nachschub erfolgt. Zu diesem Zwecke wurden bereits verschiedene Anlagen vorgeschlagen, u. a. eine starke Neigung des Tablars, so daß ein selbsttätiges Nachrutschen erfolgt, oder die Anbringung einer Walze hinter dem Warenstapel, die bei geringerer Neigung des Tablars trotzdem noch ein Nachschieben verursacht. Es besteht aber auch bereits ein Mechanismus, bei welchem eine Spiralfeder unter dem Stapel durchgestreckt wird und hinter diesem sich aufrollt, so das Nachschieben verursachend. Eine solche Feder hat die Tendenz, den ganzen Stapel hochzugeben; was insbesondere bei der Wegnahme der vordersten Packung noch vermehrt der Fall ist.

Die erfindungsgemäße Unterteilungs- und Nachschubvorrichtung zeichnet sich dadurch aus, daß Schienen angeordnet sind, die abgetrennte Kanäle bilden, wobei an den Schienen pro Kanal ein elastisches Zugorgan, das über eine vordere Walze läuft und einen Schieber gegen den vorderen Anschlag zieht, befestigt ist.

Auf der Zeichnung ist ein Ausführungsbeispiel des Erfindungsgegenstandes dargestellt. Es zeigt:

Fig. 1 eine Draufsicht auf ein Tablar mit Unterteilungs- und Nachschubvorrichtung,

Fig. 2 einen Schnitt durch das Tablar mit Seitenansicht der Vorrichtung und

Fig. 3 einen Detailschnitt nach der Linie III-III in Fig. 1.

An seiner vorderen Kante weist das Tablar 1 eine längsverlaufende Anschlageiste 2 auf. Die quer zum Tablar 1 angeordneten Schienen 3 mit im Querschnitt T-förmigen Ausnehmungen, sogenannten Vorhangschienen, teilen das Tablar in einzelne Kanäle 4 auf, die der Aufnahme von verpackter Ware, z. B. Zigarettenpäckchen 5, dienen. Am vorderen Ende der Schiene befindet sich die Walze 6, um die das elastische Zugorgan 7, z. B. Gummiband oder Feder, umgelenkt ist. Dieses Zugorgan ist im Hohlraum der Schiene untergebracht und einerseits an der Stelle 8 der Schiene befestigt, während es anderseits mit dem Schieber 9 verbunden ist.

Im Kanal 4 werden die Päckchen 5 zu einem Stapel eingesetzt, und zwar zwischen der vorderen Anschlageiste 2 und dem zurückgedrückten Schieber 9. Durch den Zug des Bandes 7 werden die Päckchen jederzeit vom Schieber 9 gegen die Anschlageiste gepreßt. Nach Wegnahme des vordersten Päckchens erfolgt automatisch der Nachschub.

Nähe der hinteren Kante des Tablars ist, diesmal aber längsverlaufend, eine gleichartige Schiene 11 angebracht, die einerseits der Befestigung und Abstützung der Schienen 3 dient und anderseits der Halterung des gegen das Tablar federnden Haltebügels 12. Dieser reicht bis zum zweitvordersten Päckchen und soll verhindern, daß bei dessen Herausnahme der ganze Stapel oder ein Teil nach oben herausspringt.

Haltebügel 12 und Schienen 3 können über die Schrauben 13 respektive 14 an verschiedenen Stellen der Schiene 11 befestigt werden, was ein Anpassen an die einzuruhnenden Päckchen gestattet.

PATENTANSPRUCH

Schau- und Verkaufstablar mit Unterteilungs- und Nachschubvorrichtung, dadurch gekennzeichnet, daß Schienen angeordnet sind, die abgetrennte Kanäle bilden, wobei an den Schienen pro Kanal ein elastisches Zugorgan, das über eine vordere Walze läuft und einen Schieber gegen den vorderen Anschlag zieht, befestigt ist.

UNTERANSPRÜCHE

10. 1. Tablar mit Nachschubvorrichtung nach Patentanspruch, dadurch gekennzeichnet, daß die Schienen im Querschnitt gesehen eine T-förmige Ausnehmung aufweisen, in welcher das Zugorgan untergebracht ist und der Führungsfuß des Schiebers gleitet.
15. 2. Tablar mit Nachschubvorrichtung nach Patentanspruch und Unteranspruch 1, dadurch gekennzeichnet, daß die Walze, über welche das Zugorgan läuft,

nahe der vorderen Tablarkante ebenfalls in der T-förmigen Ausnehmung angeordnet ist.

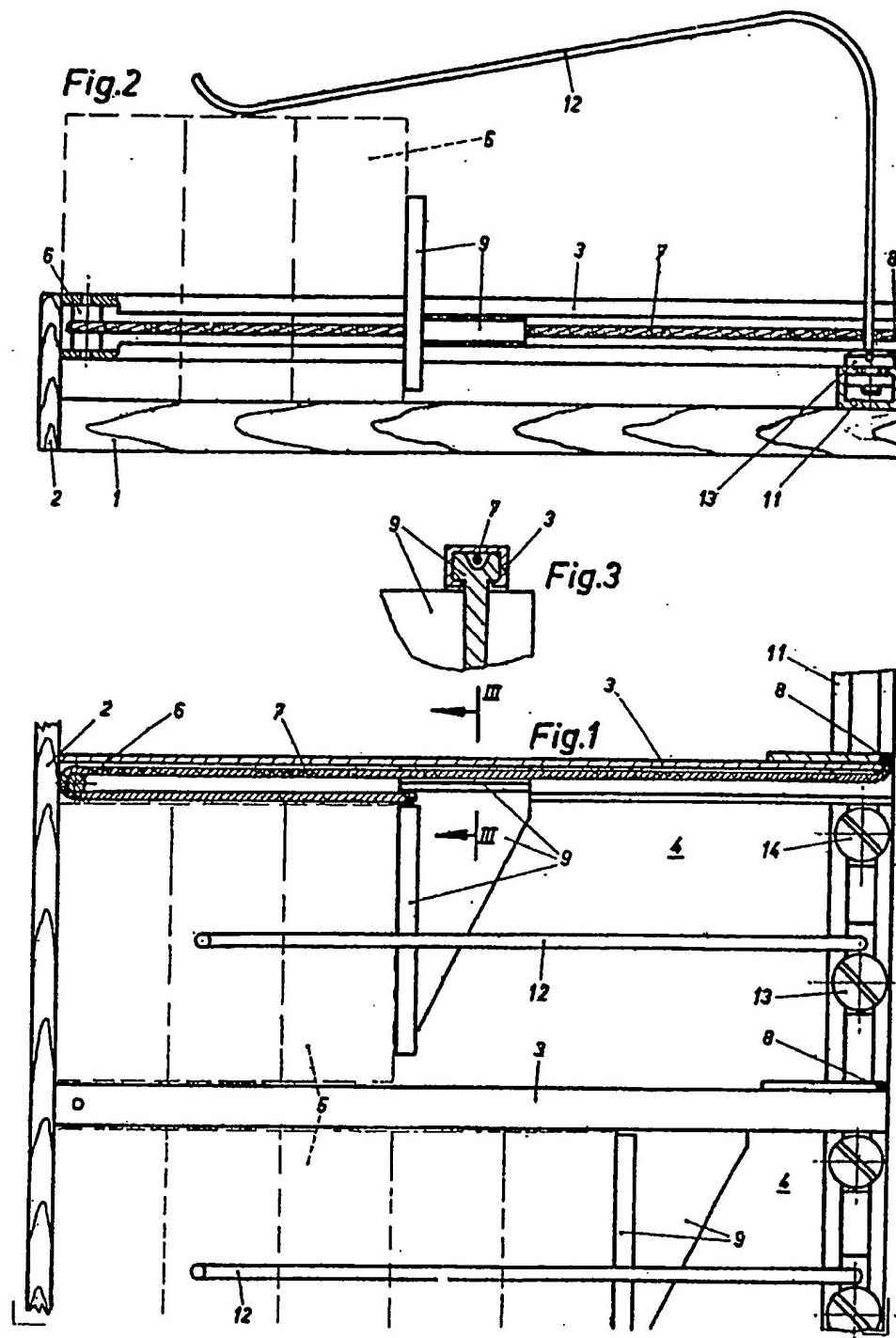
3. Tablar mit Nachschubvorrichtung nach Patentanspruch, dadurch gekennzeichnet, daß als Zugorgan ein Gummizug angeordnet ist.

4. Tablar mit Nachschubvorrichtung nach Patentanspruch, dadurch gekennzeichnet, daß pro Kanal ein gegen das Tablar federnder Tiefhaltebügel angeordnet ist, der nahe der hinteren Tablarkante befestigt ist.

5. Tablar mit Nachschubvorrichtung nach Patentanspruch und Unteranspruch 4, dadurch gekennzeichnet, daß nahe der hinteren Tablarkante eine Profilschiene angeordnet ist, in welcher der Haltebügel befestigt ist.

Albert Gemperle

Vertreter: A. Rossel, dipl. Ing. ETH, Zürich



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MAIN PATENT

Albert Gemperle, Hombrechtikon.

Display- and sales shelf with a dividing- and feeding device

Albert Gemperle, Hombrechtikon, has been designated as the inventor.

The invention relates to a display- and sales shelf with a dividing- and feeding device.

Shelves of wood, metal, and transparent plastic, which are divided transversely to the length of the shelf by intermediate walls, are already known, whereby prepackaged merchandise, such as cigarettes, for example, are filled into the channels thus formed. It is desirable for a feeding movement to follow after the removal of the forwardmost packet. For this purpose, different systems have already been proposed, such as a sharp inclination of the shelf, among others, so that an automatic subsequent settling takes place, or the application of a roller behind the stack of merchandise which, with a lesser inclination of the shelf, nevertheless causes a forward feeding. A mechanism in which a spiral spring is inserted through under the stack and, behind this, rolls up in such a manner that it brings about the forward feeding, also already exists. Such a spring has the tendency to move up the entire stack, which is still repeatedly the case, particularly upon the removal of the forwardmost packet.

The dividing- and feeding device in accordance with the invention is characterized in that rails which form separated channels are positioned, whereby one elastic pulling element per channel, which proceeds over a forward roller and draws a pushing unit against the forward catch unit, is attached to the rails.

One example of implementation of the object of the invention is depicted in the diagrams. These depict the following:

Figure 1: A view from above onto a shelf with a dividing- and feeding device;

Figure 2: A section through the shelf with a lateral view of the device; and:

Figure 3: A detailed view in accordance with the line III-III in Figure 1.

On its forward edge, the shelf (1) has a longitudinally-proceeding stopping bar (2). The rails (3), so-called "curtain rails" which are positioned transversely to the shelf (1) with recesses T-shaped in cross-section, divide the shelf into individual channels (4) which serve for the accommodation of packaged merchandise, such as cigarette packets (5), for example. The roller (6), around which the elastic pulling element (7), such as a rubber cord, band, or spring, for example, is guided, is located on the forward end of the rail. This pulling element is accommodated in the hollow space of the rail and is attached at point (8) of the rail, on the one hand, while it is connected with the pushing unit (9), on the other hand.

Inside the channel (4), the packets (5) are placed into a stack and, specifically so, between the front stopping bar (2) and the pressed-back pushing unit (9). Through the pulling of the band (7), the packets are at all times pressed by the pushing unit (9) against the stopping bar. After the removal of the forwardmost packet, the feeding takes place automatically.

Near the rear edge of the shelf, a similar rail (11) is attached, but this time proceeding longitudinally, however, which shelf serves, on the one hand, for the attachment and support of the rails (3) and, on the other hand, for the elastic fixing of the holding clamp (12) against the shelf. This extends up to the second forwardmost packet and is intended to prevent the entire stack, or a portion thereof, from springing upwardly upon the removal of the same.

The holding clamp (12) and rails (3) can be attached by means of the screws (13 and 14, respectively) to different points of the rail (11), which permits an adjustment to the packet to be carried out.

PATENT CLAIM

A display- and sales shelf with a dividing- and feeding device, characterized in that, rails which form separated channels are positioned, whereby one elastic pulling element per channel, which proceeds over a forward roller and draws a pushing unit against the forward catch unit, is attached to the rails.

SUB-CLAIMS

1. A shelf with a feeding device in accordance with the patent claim, characterized in that, the rails, considered in the cross-section, have a T-shaped recess in which the pulling element is accommodated and the guide foot of the pushing unit slides.

2. A shelf with a feeding device in accordance with the patent claim and sub-claim 1, characterized in that, the roller over which the pulling element proceeds is positioned near the forward shelf edge, likewise in the T-shaped recess.
3. A shelf with a feeding device in accordance with the patent claim, characterized in that, a rubber pulling device is provided as the pulling device.
4. A shelf with a feeding device in accordance with the patent claim, characterized in that, for each channel, a holding clamp is positioned elastically against the shelf, which [holding clamp] is attached close to the rear edge of the shelf.
5. A shelf with a feeding device in accordance with the patent claim and sub-claim 4, characterized in that, a profile rail in which the holding clamp is attached is positioned near the rear edge of the shelf.

Albert Gemperle

Representative: A. Rossel, Grad. Eng., ETH, Zürich.

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